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10/633,435

Filing Date

07/18/2003

First Named Inventor

HUYNH-BA

Art Unit

1743

Examiner Name

LEVKOVIVH, NATALIA

Attorney Docket Number

DCS-9179

ENCLOSURES (Check all that apply)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Huynh-Ba et al.

Serial No.: 10/622,435

Date Filed: 07/18/2003

Title: Magazine for Inventorying Reaction
Cuvettes in an Automatic Analyzer

Atty. Docket No.: DCS-9179

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) Group Art Unit: 1743
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) Examiner: Natalia A. Levkovich
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APPEAL BRIEF PURSUANT TO 37 C.F.R. §1.191

Sir:

Applicants file this Appeal from the decision of the Examiner to the Board of Patent Appeals and Interferences in furtherance to the Notice of Appeal mailed on January 5, 2007, and received by the Patent Office on January 9, 2007.

1. Real Party in Interest. The real party in interest in this appeal is the assignee of the application, Dade Behring Inc.
2. Related Appeals and Interferences. Applicants submit that there are no appeals or interferences currently pending or presently intended that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.
3. Status of Claims. Claims 1- 6 were in the case originally filed on July 18, 2003, as 10/622,435.

Claim 1 was amended on March 17, 2006, in a Request for Continued Examination, to overcome a 103(a) rejection as being unpatentable over Link (US

6,098,819) in view of US Patent 6,321,609 to Mengel et al. Claim 1 was subsequently amended on September 6, 2006, to overcome a second rejection of claim 1 under 103(a) as being unpatentable over Link (US 6,098,819) in view of US Patent 6,321,609 to Mengel et al.

Claims 1-6 are the subject of this appeal and stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over Link (US 6,098,819) in view of US Patent 6,321,609 to Mengel et al.

4. Status of Amendments. Claim 1 now on appeal was last amended on September 6, 2006. Claim 2-6 now on appeal have not been amended. The claims are set out in Appendix 1.

5. Summary of the Invention. The subject matter claimed in the present application is useful in automated biochemical analyzers that employ a combination of analyte specific chemical reagents and reaction monitoring means to assay or determine the presence or concentration of a specific analyte within a liquid sample suspected of containing that particular analyte. It is advantageous that such analyzers have the ability to perform a large number of reaction assays without operator intervention; therefore it is desirable to maintain a large inventory of reaction cuvettes on such analyzers in such a manner that cuvettes may be automatically provided for performing reaction assays therein. In particular, the present invention provides a cuvette magazine having features to inventory cuvettes securely therein regardless of whether the magazine is positioned on the analyzer or removed from the analyzer.

Applicants have provided a cuvette magazine suitable for housing reaction cuvettes that are essentially shaped like a rectangular box, with a mutually opposed front wall and back walls perpendicular to and separating two mutually opposed side walls (Fig. 5) Projecting ledges are formed at the top of opposing sides of the cuvette, each ledge having a latching bulge to facilitate automated handling of the cuvette. Anti-wicking fillets are formed as a smooth transition that effectively blends the intersections of the front and back walls and side walls.

Applicants' claimed magazine comprises a generally rectangular storage cell with upper and lower portions with an integrated alignment and locking band having two pairs of rails and two locking tabs formed on the exterior of the magazine in the lower portion (Fig. 7). The magazine has having curved front and back surfaces even though the cuvettes stored therein are generally rectangular. The rails and locking tabs are provided in order to vertically align the cuvette magazine and lock it within aligned grooves and recess within the analyzer. A hinged or slideable gate is provided in the lower portion to allow cuvettes to be removed from the magazine and at the same time, to prevent cuvettes from sliding out of cuvette magazine during handling. Specification, page 8, paragraph [0033].

In order to inventory a large number of cuvettes in a relatively small volume, a number of adjacent vertical chutes are formed in the interior of the magazine (Fig. 9) by the curved front and back surfaces and a pair of opposing chute walls, each chute wall having opposing pairs of ribs protruding into the interior of each storage chute. Specification, page 9, paragraph [0034]. Consequently, a large number of reaction cuvettes may be "horizontally" stacked atop one another in each chute and ejected in a singulated stream through the opened gate onto an analytical portion of the analyzer. In one embodiment, the gate is spring-loaded and is adapted to swing outwards from a closed position preventing reaction cuvettes from sliding out of cuvette magazine into an opened position allowing reaction cuvettes to be ejected from the magazine (Fig. 17)

6. Issue on Appeal. Whether or not claims 1-6 are unpatentable under 35 U.S.C. §103(a) as being obvious over Link (US 6,098,819) in view of US Patent 6,321,609 to Mengel et al.

7. Grouping of claims. There is a single rejection being appealed which applies to all claims. Applicants understand and acknowledge that the claims shall stand or fall together.

8. Arguments. Claims 1-6 stand rejected under 35 U.S.C. §103(a) as being obvious over Link (US 6,098,819) in view of US Patent 6,321,609 to Mengel et al. These rejections are respectfully traversed. The following arguments are directed at the

patentability of claim 1 since Claims 2-6 depend therefrom and further limit the claimed invention.

The feature relied upon for non-obviousness of the present invention is the fact that Applicant's cuvette magazine is provided with cuvette storage chutes formed in the interior of the magazine by curved front and back surfaces, even though the cuvettes to be stored therein are generally rectangular box-shaped. Link, in contrast and as noted by the Examiner, teaches a magazine comprising a rectangular storage area having opposing walls and divided into two rectangular storage compartments. Link's rectangular storage compartments are used to store rectangular holding plates for pipette tips (Fig. 1, USP 6,098,819). Notwithstanding the teachings of the Link, wherein a rectangular storage compartment is used to store rectangular plates, the present invention provides storage chutes having curved front and back walls to store generally rectangular cuvettes.

The Examiner, in the Office Action dated November 15, 2006, at page 2, notes that "Link does not teach the hinged gate, the locking means inside the magazine, as well as the front and back surface being curved." Mengel discloses a magazine having multiple slots for holding gas sampling tubes and "teaches that the slots are sized corresponding to the sampling tube to be stored". The "slots appear to be curved on a front and back side" (page 3, top).

It is Applicants' position that the present invention is patentable over Link in view of Mengel for the simple reason that both Link and Mengel teach that the interior of a storage compartment or slot ought to have the same general shape as the plate or tube, respectively, being stored therein. Link's plates are rectangular and Link's storage compartments are rectangular. Mengel's tubes are curved and Mengel's "slots appear to be curved". In contrast to these accepted teachings of the art of record, Applicant's magazine for holding generally rectangular cuvettes specifically claims storage chutes that have curved on the front and back walls.

The Examiner, in the Office Action dated November 15, 2006, at page 3 "maintains that it would have been within the ordinary skill of an artisan at the time the invention was made to have curved the walls of the magazine in the modified apparatus

of Link, in order to adjust its shape to the shape of related equipment, such as a loading station which can be for example, a carousel, or a turntable.” This argument is flawed, however, because as noted above, the ordinarily skilled artisan would have employed a generally rectangular magazine (having flat front and back walls) with generally rectangular chutes (defined by flat front and back walls) to store generally rectangular cuvettes and would have simply mounted the generally rectangular magazine on a generally rectangular turntable. It would simply be contrary to the teachings of Link and Mengel to store generally rectangular cuvettes in a magazine with curved front and back walls.

What the Examiner is suggesting is that the shape of the turntable, “which in often cases can be a carousel or a turntable” (Office Action dated November 15, 2006, at page 3), should dictate the shape of the storage magazine irrespective of the shape of the object being stored therein. Applicants respectfully traverse such a suggestion because it is *prima facie* illogical; more importantly, the Examiner has given no support for such a suggestion or combination of teachings.

As stated in the MPEP 706.02, in making an obviousness rejection under 35 USC 103(a), MPEP 706.02(j) requires that the Examiner, as a minimum:

"set forth (1) the difference or differences in the claim over the applied reference(s), (2) the proposed modification of the applied reference(s) necessary to arrive at the claimed invention, and (3) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification."

In the text quoted above, the phrase "at the time the invention was made" guards against the use of hindsight when analyzing the patentability of claims and requires the step of casting back to the time of invention and considering then-accepted teachings of the art, guided only by the prior art. In making the present obviousness rejection, the Examiner has pointed to “enhancing the scope of its (the magazine’s) applicability by adjusting its shape to conventional shape of related equipment, such as, for example, a loading station which in often cases can be a carousel or a turntable” as a motivation for combining the disclosures of both Link and Mendel. However, the Examiner has failed to

set forth the required showing of a teaching or motivation within the prior art references to modify Link's storage compartment to specifically require that the front and back walls be curved, especially in face of the fact that the plates being stored in the compartment are rectangular. Lacking this motivation, Applicant believes there is no valid basis for combining Mendel's "slots that appear to be curved on a front and back side" with Link's rectangular storage compartment in order to defeat patentability. Applicants thus believe that the rejection over US Patent 6,098,819 to Link in view of US Patent 6,321,609 to Mengel is unsubstantiated, in particular since MPEP 2144 emphasizes that "obviousness cannot be established without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done". In this instance, the present patent applicant requires that the front and back walls be curved even though the cuvette to be stored is generally rectangular and there is no motivating force disclosed within Mengel or Link to make this restriction.

9. Conclusion In view of the above remarks, Applicant respectfully submits that the Examiner has provided no supportable position or evidence that Claims 1-6 are unpatentable under 103(a) over Link (US 6,098,819) in view of US Patent 6,321,609 to Mengel et al. Accordingly Applicants respectfully request that the Board find Claims 1-6 patentable over prior art of record and withdraw all outstanding rejections.

Respectfully submitted,



Date: February 22, 2007

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APPENDIX 1

1. (as amended) A magazine for releasably inventorying a plurality of reaction cuvettes to be used in an automatic clinical analyzer, the magazine comprising a generally rectangular storage cell having curved front and back surfaces between a top and a bottom, and a number of storage chutes therein, each chute sized to accommodate generally rectangular reaction cuvettes stacked one atop another therein, the storage chutes being defined by the front and back surfaces and a pair of opposing chute walls, each chute wall having two opposing pairs of ribs protruding therefrom and into the interior of each storage chute.
2. (original) The magazine of claim 1 wherein the front and back curved surfaces do not extend to the bottom of the magazine so that a number of cuvette ejection openings are formed at the front surface of the magazine between the chute walls.
3. (original) The magazine of claim 1 wherein a flat pad smaller than the storage chutes is formed at the lower extremity of each interior chute wall protruding into the interior space of the storage chutes.
4. (original) The magazine of claim 1 wherein a flat ledge smaller than the storage chutes is formed at the lower extremity of each exterior chute wall protruding therefrom and into the interior space of the storage chute.
5. (original) The magazine of claim 1 further comprising an alignment and locking band having two pairs of rails and two locking tabs formed on the exterior, lower portion thereof.
6. (original) The magazine of claim 1 further comprising a hinged gate proximate the bottom of the magazine, the gate spring-loaded by a hinge-spring on the curved front surface, the gate adapted to swing outwards from a closed position preventing reaction cuvettes from sliding out of the magazine to an opened position allowing reaction cuvettes to be ejected from the magazine.